

MULTIMEDIA



UNIVERSITY

STUDENT IDENTIFICATION NO

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# MULTIMEDIA UNIVERSITY

## FINAL EXAMINATION

TRIMESTER 1, 2017/2018

**BFN 2054 – PORTFOLIO MANAGEMENT**  
(All sections/ Groups)

26 OCT 2017  
9:00 AM- 11:00 AM  
(2 Hours)

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### INSTRUCTION TO STUDENT

1. This Question paper consists of **2** pages with **5** questions.
2. Attempt all the questions. The distribution of the marks for each question is given.
3. Please answer all questions in the Answer Booklet provided.

Please answer all the questions

**Question 1: 25 marks**

You have been assigned to compare the performance of three different pension fund. After gathering 60 months of excess returns (i.e. returns in excess of the monthly risk-free rate) on each fund as well as the monthly excess returns on the entire stock market, you perform the regressions of the form:

$$(R_{fund} - RFR)_t = \alpha + \beta(R_{mkt} - RFR)_t + \varepsilon_t$$

You have prepared the following summary of the data, with the standard errors for each of the coefficients listed in parentheses.

Regression Data				$(R_{fund} - RFR)$	
Portfolio	$\alpha$	$\beta$	$R^2$	Mean	$\sigma$
A	0.296 (0.14)	0.785 (0.12)	94.8	0.890	0.890
B	0.355 (0.22)	0.757 (0.08)	6.41	0.955	1.044
C	0.463 (0.19)	0.594 (0.07)	68.6	0.935	0.793

- Which fund had the highest degree of diversification over the periods? How is diversification measured in this statistical framework? (6 marks)
- Rank these funds' performance according to the Sharpe, Treynor, and Jensen measures. (9 marks)
- Since you know that according to the CAPM the intercept of these regressions (i.e. alpha) should be Zero, this coefficient can be used as a measure of the value added provided by the investment manager. Which funds have statistically outperformed and underperformed the market using a two-sided 95 percent confidence interval? (note: the relevant t-statistic using 60 observations is 2.00) (10 marks)

**Question 2: 20 marks**

- When discussing the principles of portfolio management, what are the seven classes of investors? (10 marks)
- A portfolio has a primary objective of capital appreciation and a secondary objective of growth of income. If you feel bearish about the stock market as a whole, is it appropriate for you to reduce your equity holding to zero? Why or why not? (10 marks)

**Continued...**

**Question 3: 20 marks**

Briefly explain how the strategies active manager can use to add value to his portfolios?

**Question 4: 20 marks**

Suppose that the universe of available risky securities consists of a large number of stocks, identically distributed with  $E(r)=15\%$ ,  $\sigma=60\%$ , and a common correlation coefficient of  $\rho=0.5$ .

- a) What is the expected return and standard deviation of an equally weighted risky portfolio of 25stocks? (5 marks)
- b) What is the smallest number of stocks necessary to generate an efficient portfolio with a standard deviation equal to or smaller than 43%? (5 marks)
- c) What is the systematic risk in this universe? (5 marks)
- d) If T-bills are available and yield 10%, what is the slope of the capital allocation line? (5 marks)

**Question 5: 15 marks**

JRJ Corporation recently issued 10-year bonds at a price of RM1,000. These bonds pay RM60 in interest each six months. Their price has remained stable since they were issued, i.e., they still sell for RM1,000. Due to additional financing needs, the firm wishes to issue new bonds that would have a maturity of 10 years, a par value of RM1,000, and pay RM40 in interest every six months. If both bonds have the same yield, how many new bonds must JRJ issue to raise RM2,000,000 cash?

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